

take into account parameters other than cost and benefit. For example, an order to execute a stock trade might always be given the highest priority irrespective of any other considerations. The prioritization can take into account both the cost and benefit values assigned to a request as well as what other requests are waiting to be executed. For example the system owner might establish a rule that specifies if there are five very low costs requests (i.e. requests that can be quickly and easily executed) and there is one high cost request waiting to be executed, execute the low cost requests prior to the high cost requests. The examples given below illustrate ways in which the invention improves upon the processing performed by ordinary servers:

Example One:- Server task scheduling according to priority, derived from task benefit and task cost. Assume that within a single interval, the following Web requests arrive at the origin server:

1. benefit 20, cost 200 milliseconds
2. benefit 10, cost 20 milliseconds
3. benefit 10, cost 30 milliseconds
4. benefit 20, cost 50 milliseconds

If they were scheduled in the order they arrived, the cumulative time and cumulative benefit would be

1. total benefit 20 after 200 milliseconds
2. total benefit 30 after time 220 milliseconds
3. total benefit 40 after time 250 milliseconds
4. total benefit 60 after time 300 milliseconds

If they were scheduled more optimally, the average response time and benefit per second (millisecond) would be higher:

2. total benefit 10 after time 20 milliseconds
4. total benefit 30 after time 70 milliseconds
3. total benefit 40 after time 100 milliseconds
1. total benefit 60 after time 300 milliseconds